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DEPARTMENT OF THE ARMY
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ANNOTATIONS OF ARTICLES

1. **BREIZIN, R. S. and SOKOLOVA, N. N.,** The effect on experimental influenza of extracts made from plants of the natural families Myrtaceae and Ericaceae. (From the Institute of Virology of the Academy of Medical Sciences of the U.S.S.R.)

Water or alcohol extracts from leaves of plants of the natural family Myrtaceae (*Eucalyptus* and *Myrtus*) appeared capable of inhibiting the multiplication of influenza virus in chick embryos. This effect was most pronounced if plant extracts were inoculated into the allantoic sac before the virus. The extent of inhibition varied with different strains and types of A, A-prime, and B viruses. Inoculation of the extracts into the yolk sac or amniotic cavity had no effect. The duration of protection was short. From 19 species of *Eucalyptus* and 10 species of *Myrtus* investigated 4 and 2 species respectively were selected which gave extracts of similar inhibitory activity in chick embryos. Subsequent examinations of other plant species (more than 20 species of different natural orders) resulted in the detection of activity in only a very few species of the family Ericaceae (bilberry, huckleberry).

The extracts neutralized 100–1,000 I.D. of the virus *in vitro*. However, allantoic fluids taken from eggs immediately after inoculating with a plant extract had no *in vitro* neutralizing powers.

Investigations made into the nature of active substances in the extracts have shown that essential oils could neutralize up to 1,000 I.D. of influenza virus *in vitro*, but were inactive in chick embryos or white mice. The presence of saponin in the extracts from leaves was excluded because these did not cause haemolysis. In tests with gelatine (0·5–1 per cent) or peptone (2 per cent) it was established that all active preparations contained tannin.

2. **MUSABAEV, I. K.,** The problem of clinical coliæmia. (From Tashkent Institute for Post-graduate Training of Physicians.)

The author has observed 30 patients from whom either *E. coli* (25 cases) or paracolon bacilli (5 cases) were repeatedly isolated. The majority of the patients were adults, the others being 2 children under 10 years.

The illness was in most cases of medium severity, in 7 cases severe, and in one it was mild. The onset was acute in 16 cases and gradual in 14 cases. In the first group of cases symptoms such as chill and fever developed within the first 24 hr, and in the second gradually over a period of 5–6 days.

On admission the patients complained of fatigue, headache, shivering, sweating, general malaise, anorexia or reduced appetite, nausea, vomiting, pains in the stomach, diarrhoea or constipation, cough, fainting, depression and insomnia.

In all cases the symptoms were accompanied by different types of fever with duration from 1 to 20 days and longer.

Miscellaneous symptoms included: a roseolar, macular or punctate exanthem, usually appearing on the sixth to the tenth day and sometimes on the eleventh to the fifteenth day, a coated and furred tongue, enlargement, induration and tenderness of the liver and spleen; in the cardiovascular system tachycardia or more rarely bradycardia were observed, although the pulse rate usually remained normal in the majority of the patients. In some cases the heart was enlarged on percussion, and in some the blood pressure was lower than normal; in the central nervous system confusion or loss of consciousness was seen in severe cases; the blood showed leucopenia in most cases, or occasionally a moderate leucocytosis; the differential counts were more or less affected in most cases; half of the patients had low red-cell counts with either anisocytosis or poikilocytosis, with haemoglobin reduced to 40–50 per cent; the E.S.R. was raised in the majority of the patients (from 10 to 70 mm/hr).

At the end of illness the fever terminated by lysis rather than by crisis.

3. **LOSKUTOVA, N. N., NEMOLOVSKAIA, E., and FEDORELIS, L. B.,** Some cases of nervous complications after immunization against rabies. (From Tashkent Institute of Vaccines and Sera.)

Six cases of nervous complications after antirabies vaccination are analysed, in 5 cases Philips vaccine being used. In half of the cases complications appeared during the vaccination and in the other half after the course of vaccination was completed. Clinically the nervous complications appeared to be meningo-encephalitis and differed only in details. The involvement of the nervous system increased rapidly after the appearance of the first symptoms and in 4 cases resulted in death. The *post mortem* diagnosis was meningo-encephalitis in 2 cases, acute ascending transverse myelitis in one case, and virus serous meningitis in one case. In the brains of 2 fatal cases fixed rabies virus was detected, in 2 other cases the results of passage in susceptible animals were negative.

The authors stress the fact that the occurrence of nervous complications in vaccinated individuals coincided with some unfavourable anamnestic data such as excessive use of alcohol, nervous and physical fatigue and severe trauma to the head preceding the illness, and since other vaccinated persons had no complications, a conclusion was made that the main cause of the development of complications was the general condition of the vaccinated persons.

Hence the authors suggested that the resistance of the body should be increased by all possible means during the period of vaccination. At the first appearance of pathological reactions to vaccination it should be discontinued, and in place of vaccine (active immunization) blood from donors who completed a course of antirabies vaccination (passive immunization) should be injected, at the same time carrying out treatment by all available medical and physical methods.

4. **PROKOP'EVA, I. V.**, Comparative evaluation of some laboratory techniques for the diagnosis of brucellosis. (From Sverdlovsk Regional Antibrucellosis Station.)

This paper reports the results of laboratory studies of 100 cases of chronic brucellosis of 6 months to 6–8 years duration. A comparative evaluation was made of the following criteria: leucopenia, E.S.R., opsonic reaction, and the results of Wright's, Burnet's and Huddleson's tests.

Leucopenia was present only in 33·6 per cent; the E.S.R. was raised during exacerbations and the subcompensatory phase in 32 per cent; the opsonic reaction was present in 98·6 per cent, and in the acute stage in 88·8 per cent, and there was no relation to the duration of illness.

Wright's test was positive in 28·8 per cent of all cases; in cases of illness with duration from 1 to 6 years the reaction was positive in 47 per cent; in exacerbations 37 per cent (mostly in low titres) in the decompensatory phase and in 18 per cent in the subcompensatory phase. Burnet's test was positive in cases of illness with duration from 6 months to 1 year in 60·6 per cent; from 1 to 3 years in 52 per cent, and from 3 to 6 years in 43·2 per cent. Huddleson's test was positive in 88·5 per cent and in exacerbations of chronic infection in 93 per cent. Thus Huddleson's test appeared to be more advantageous. Different results obtained with the use of different diagnostic tests emphasize the necessity of using more than one laboratory technique for the diagnosis of brucellosis.

5. **KRASNOVA, V. G., MOROZ, O. P., BATRAK, F. G., and SLINCHENKO, O. A.**, Uncommon case of complications after antirabies immunization. (From Dnepropetrovsk Institute of Epidemiology, Microbiology and Hygiene.)

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A case of meningo-encephalitis was observed in an out-patient clinic in Dnepropetrovsk in a woman K., 30 years, being treated after a bite. After the fifth inoculation of rabies vaccine of batch No. 324 shock suddenly appeared, accompanied by vomiting. Two hours later the patient was taken to hospital in an unconscious condition. Illness developed rapidly and led to the appearance of bulbar complications and oedema of the lungs. The illness was diagnosed as toxic infectious meningo-encephalitis. On the second day in hospital the patient died with signs of heart failure.

From the history it could be established that the patient complained of unwellness on the day of vaccination.

The diagnosis of toxic meningo-encephalitis was confirmed at autopsy. There was venous engorgement of the internal organs, haemorrhage in the papillary muscles of the mitral valve and marks of a bite on the right shoulder. Histological examination of the brain and organs showed acute glomerulonephritis, oedema of the brain with hyperplasia of the reticulo-endothelial cells and degeneration of the liver. In brain smears (Muromtsev's strain) no Negri bodies could be found.

The vaccine No. 324 which was used for inoculating of the patient was carefully examined. This vaccine complied to standard in physical, biochemical (NaCl and phenol content, pH) properties and in sterility and lack of toxicity, and was certified as fit for use. After subdural (0·2 ml) and subcutaneous inoculation (18–72 ml) none of 4 rabbits inoculated showed signs of illness during 30–36 days of observation. It is concluded that the vaccine contained no viable fixed rabies virus.

The brain of the deceased was examined for viable street or fixed rabies virus. A brain suspension diluted 1:10 was inoculated subdurally into 6 rabbits (0·2 ml each), intraperitoneally into 1 rabbit (2 ml) and subcutaneously into 1 rabbit (2 ml). One rabbit died on the seventh day after subdural inoculation, the other 7 remained well during 28–35 days of observation. A suspension of the brain of the dead rabbit was inoculated into further animals (subdurally into 4 rabbits in a dose of 0·2 ml and 3 mice in a dose of 0·02 ml, and subcutaneously into 4 mice in a dose of 0·2 ml), of which 1 rabbit died on the fourth day, whereas the other animals remained alive during 30 days of observation. A suspension of the brain of the dead rabbit was again inoculated into 4 further rabbits. These remained well during 26 days of observation.

In experiments with mice it was not possible to produce death with the characteristic signs of rabies.

Thus it was established that the brain of the deceased contained neither street nor fixed rabies virus. The authors concluded that death of the patient K. was produced by toxic meningo-encephalitis. The latter was a result of anaphylactic shock (of allergic character) which developed as a result of sensitization by rabies vaccine on a background of the general condition of the patient, in particular of the heightened reactiveness of the nervous system. The authors, however, do not exclude the possibility of an independent illness or of its provocation by antirabies inoculations.